

Qin Biol 4650 Course Outline 2016F (Final4xili)

Biology 4650: Issues in Biotechnology (Credit Weight: 0.5)
Cross-List: Applied Bio-Molecular Science 4650.

Offering: 3-0; or 3-0.

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Office Hours: Tuesdays 11:30 AM-12:30 PM or by appointment

Meetings: 3 Hours/Week

Time: Tuesdays and Thursdays 10:00-11:30 AM

Location: RB 2026

Final Day for registration: September 19, 2016, Final Day for withdrawal: November 7, 2016

Textbook: <<Introduction to Biotechnology>> by William J. Thieman and Michael A. Palladino (Third Edition of Pearson Canada) [Strongly encouraged to buy the textbook but not required].

Description: Current technical and ethical issues in biotechnology will be lectured and discussed in the class. The focuses will be on (1) Proteins as Products, (2) Microbial Biotechnology, (3) DNA Fingerprinting and Forensic Analysis, (4) Bioremediation, (5) Biotechnology Regulations, (6) Ethics and Biotechnology, etc. This course will mainly consist of [1] Instructor's lectures, [2] Guest speaker's lectures, [3] Literature-based student Powerpoint presentations. All the students will be required to extensively read scientific papers in biotechnology for group presentations. Every three to four students will form a presentation group and give a presentation in the class. The presentations will be marked by all the peer classmates except the presenters themselves. Evaluation form is attached below.

Contents: October 11-14, 2016: Fall Reading Week

Chapter 1: The Biotechnology Century and Its Workforce (1 week)

Chapter 4: Proteins as Products (2 weeks)

Chapter 5: Microbial Biotechnology (2 weeks)

Chapter 8: DNA Fingerprinting and Forensic Analysis (1 week)

Chapter 9: Bioremediation (2 weeks)

Chapter 12: Biotechnology Regulations (1 week)

Chapter 13: Ethics and Biotechnology (1 week)

Group Presentations (After all the chapters are lectured): Two group presentations in each class (2 weeks)

Course Goals: (1) Understand the historical, technical, and societal context of biotechnology. (2) Familiarize with the wide range of technologies and applications. (3) Understand controversial biotechnology issues and how they are viewed by different societal stakeholders. (4) Develop public presentation and explanation skills.

Notes: [1] Only the students who do not have conflict of time with any other course and/or part-time job should register in this course, because each student has to be actively involved in the class discussions. [2] Each student is invited to voluntarily send a picture of yours to the instructor (highly recommended). [3] Groups should be formed before October 18, 2016 by group leaders or alphabetically by the TA using student's last names (you can exchange a group with your classmates when very necessary). Each group leader will receive two bonus points (see below). If you have any question related with group formation, please contact TA Sheran Fernando at sfernan7@lakeheadu.ca or 766 7141 (Room CB 3037).

Grading Scheme (The lecturing PowerPoint slides do not cover all the information for exams, so intensive reading and understanding of the lectured book chapters are very necessary).

1. Mid-term exam [30%, Chapter 1, 4, 5, three chapters]: The midterm exam may include (1) Fill in the blank questions, (2) Multiple choice questions, (3) True/False questions, (4) Essay questions, etc. TA will help administer and mark the exam. Duration is 75 minutes, after 75 minutes your exam will not be counted. The exam will be held in our classroom on October 20, 2016. If you have any concerns about the marking, please contact TA first. You are welcome to copy the email to the instructor as well.

2. Final exam (Chapter 8, 9, 12, 13) [45%]. The final exam may include (1) Fill in the blank questions, (2) Multiple choice questions, (3) True/False questions, (4) Essay questions, etc. Duration is 90 minutes. The final examination date will be December 1, 2016 (Thursday morning 10-11:30 am).

3. Group presentation [25%]. In each 1.5 hours class, 2 student groups will present their topics. Each group will use 25-30 minutes for presentation and 10-15 minutes for questions. Each group can pick your own topic or select a topic from the instructor's topic list. Then you do related literature search and study the materials. Non-presenters will evaluate the presenters by filling out the evaluation form below. The highest and lowest marks will not be counted. The left marks will be used to calculate the group's average presentation marks. The instructor will evaluate the presentations as well.

Notes: [1] If you miss any examination, by providing a written justification with strong reasons and a Doctor's note, an alternative test paper (Test B) may be made. Test B will be different in questions and/or format from the test paper for the class (Test A). You should contact our TA and copy the email to the instructor at wsteaching@gmail.com for arranging your alternative exam. [2] Some bonus points (like pop quizzes, class attendances, etc.) may be introduced to the class when necessary for adjusting class average marks. Each bonus point can value more or less than 1% to your final grade, depending on class average marks from the exams and group presentations. Each group leader will receive two bonus points, if the group leader sends the final PPT presentation file to wsteaching@gmail.com 48 hours before 10 am of your presentation day, each group member including the group leader will receive three bonus points.

Student Evaluation Form for Group Presentation (25%)

1. Your name and student number _____

2. Group leader's name _____

Group member's names _____

3. Instructions for Group Presentation Marking Schedule

Topic Selection (/1)

Did the group choose an interesting topic for presentation and discussion?

Information and Content (/7).

Was the problem clearly identified? Was a solution to the problem clearly identified and explained? Did the group members have a clear understanding of the information being presented?

Did the group convey information in a clear and knowledgeable manner?

Was there enough background/introductory information given to understand the issues being presented? Were foreign ideas/acronyms explained?

Presentation Style (/4)

Was information organized in logical way? Were there smooth transitions between each group member? Did each student contribute to an equal share of the presentation?

Visual Component (/6)

Did the presenters use a suitable amount of text? Did the presenters use quality images that enhanced the understanding of the material being presented? Were the slides easy to read and understand? Did the group edit their work to eliminate spelling and grammatical errors?

Voice and Mannerisms (/4)

Did the group maintain a steady rate and tone of voice during the presentation? Did the group members themselves distract you from the material being presented i.e. fidget and pace? Did the group members maintain eye contact with the audience? Were the group members enthusiastic about their topic?

Question and Answer (/ 2)

Were audience questions answered in a knowledgeable and respectable manner? Did the group lead or add to the class discussion?

Overall (/1)

TOTAL (/ 25)

Summary of your evaluation

Group (Please write group leader and member names): _____

Topic Selection (/ 1) _____

Information and Content (/ 7) _____

Presentation Style (/ 4) _____

Visual Component (/ 6) _____

Voice and Mannerisms (/ 4) _____

Question and Answer (/ 2) _____

Overall (/1) _____

TOTAL (/ 25) _____